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Live Benthic Foraminiferal Faunas Along a Bathymetrical Transect (282–4987 M) on the Portuguese Margin (ne Atlantic)

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Résumé en anglais	Live benthic foraminifera were studied in eight cores collected along a depth transect ranging 282–4987 m on the Portuguese margin. Total standing stocks (TSS) and species assemblages from both 63–150- and >150-µm fractions are compared between stations along the transect and with previous live foraminiferal studies from the Bay of Biscay and western Iberian margin. Based on the sedimentary organic matter contents and ecological traits of the retrieved foraminifera, three groups of stations are distinguished: (1) eutrophic upper-slope stations (282–1002 m) with faunas dominated by Uvigerina mediterranea, U. elongatastriata, Melonis barleeanus, Bigenerina nodosaria, Trifarina bradyi, Epistominella vitrea, Cribrostomoides bradyi, and Bolivina robusta, (2) mesotrophic middle- to lower-slope stations (1374–2475 m) with faunas dominated by Uvigerina peregrina, Globobulimina affinis, and Repmanina charoides, and (3) oligotrophic lower-slope and abyssal-plain stations (2908–4987 m) with faunas in the larger size fraction dominated by Cibicides kullenbergi and agglutinated species such as Reophax fusiformis and Recurvoides sp. 1. The smaller size fraction is dominated by opportunistic calcareous species such as Bulimina translucens, Epistominella exigua, and Nuttallides pusillus, along with Reophax fusiformis, but most of these species are diminished at 4987 m, where Reophax fusiformis, Pullenia salisburyi, and various monothalamous agglutinates are dominant. This succession of assemblages probably reflects the increasing scarcity of trophic resources with water depth. This hypothesis is corroborated by 1) the clear decrease of TSS with increasing water depth, and 2) the decreasing sediment phytopigment concentrations towards deeper sites. Moreover, the decreasing percentage of perforate calcareous foraminifera, and increasing percentage of agglutinated foraminifera with water depth, suggests that, in general, perforate calcareous species have higher trophic requirements than agglutinated ones.
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